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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/923,842	08/07/2001	Mindaugas F. Dautartas	ACT-142 (1117-6)	2026

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EXAMINER

BRYANT, DAVID P

ART UNIT	PAPER NUMBER
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3726

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/923,842

Applicant(s)

DAUTARTAS ET AL.

Examiner

David P. Bryant

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 18-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6 and 18-22 is/are allowed.
- 6) ☒ Claim(s) 7-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 111003.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

In view of the appeal brief filed on July 22, 2004, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 7, 8, 10, and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Witherspoon (U.S. Patent No. 6,477,303).

Claims 7 and 8: In Figure 1 of Witherspoon, note micro-chip assembly 10 comprising:

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first and second spherical alignment elements **28***;

a first substrate **22** comprising a front surface which faces a first direction (in Figure 1, that direction is up), the front surface comprising at least one micro-component **16** disposed thereon (attached to the first substrate via board **12**, which is affixed to the first substrate, as disclosed in column 5, lines 39-40) and at least one depression **30** for mechanically engaging one end of the first alignment element **28**;

a second substrate **24** comprising a front surface which faces the first direction, the front surface comprising at least one micro-component **26** disposed thereon and at least one depression **32** for mechanically engaging one end of the second alignment element **28**;

wherein said first substrate is disposed above the front surface of the second substrate and said second substrate comprises a periphery which extends beyond said first substrate (as seen in Figure 1, the periphery of second substrate **24** extends far beyond the first substrate **22**); and

wherein at least one of said depressions **32** of said second substrate **24** is disposed within the periphery of said second substrate.

** It is noted that the spherical lenses 28 of Witherspoon are not disclosed as being used for "alignment" purposes, per se. However, applicant uses the same structural element--a spherical lens--as each of the first and second alignment elements in one embodiment, as disclosed on page 17, lines 9-11, and recited in claim 8. Since the structure of the alignment element of applicant and the spherical lens of Witherspoon is identical, Witherspoon meets this limitation.*

Claim 10: Micro-component **16** is an optical fiber (column 6, lines 12-13) and micro-component **26** is a spherical lens (column 5, line 65).

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Claim 11: As shown in Figure 1, depression **32** of second substrate **24** is defined between the slanted, raised surfaces on opposite sides of alignment element **28**.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Witherspoon (U.S. Patent No. 6,477,303) in view of Tayebati (U.S. Patent No. 6,041,071).

Witherspoon fails to teach an alignment element in the form of a horizontally-disposed cylinder.

Tayebati discloses alternate embodiments of an optical micro-chip assembly **100** in which either a ball lens **35A** or a horizontally-disposed cylindrical lens **35B** may be used. See Figures 3 and 4 and column 7, lines 7-14.

Since a ball lens and a horizontally-disposed cylindrical lens have been shown by Tayebati to be functional equivalents in the art for collimating light in optical micro-chip assemblies, the selection between either type is considered to be within the level of ordinary skill in the art. Furthermore, applicant has not disclosed that a cylindrically shaped alignment element is provided for any particular purpose or solves a particular problem. In fact, it is explicitly disclosed that *either* a spherical or cylindrical alignment element may be used.

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It would have been prima facie obvious to substitute a horizontally-disposed cylindrical lens for the spherical ball lens of Witherspoon, as suggested by Tayebati, because such a modification would have been considered a mere design consideration which fails to patentably distinguish over Witherspoon.

Again, although the ball lenses and cylindrical lens of Witherspoon and Tayebati are not disclosed as being used for alignment purposes, the structure of the lenses is the same as the structure of the alignment elements claimed, and thus meets the claim limitation.

Allowable Subject Matter

Claims 1-6 and 18-22 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 1: The prior art fails to teach or fairly suggest the third substrate and how it is engaged with the first and second alignment elements as claimed such that the first and second substrates are passively aligned.

Regarding claim 18: The prior art fails to teach or fairly suggest the alignment member and how it engages with the first and second alignment elements as claimed to passively align the first and second substrates and the micro-components thereon.

Regarding claim 21: The prior art fails to teach or fairly suggest the alignment member and how its first and second alignment elements are used as claimed to align the first and second substrates and the micro-components thereon.

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Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David P. Bryant whose telephone number is (571) 272-4526. The examiner can normally be reached on Monday-Thursday (6:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on (571) 272-4690. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David P. Bryant
Primary Examiner
Art Unit 3726

dpb
1/6/05